

**PATENT APPLICATION**

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

In re application of

Docket No: Q66024

Satoshi ARAKAWA

Appln. No.: 09/943,355

Group Art Unit: 2878

Confirmation No.: 8635

Examiner: Constantine Hannaher

Filed: August 31, 2001

For: METHOD AND APPARATUS FOR RECORDING AND READING OUT  
RADIATION IMAGES

**REPLY BRIEF PURSUANT TO 37 C.F.R. § 1.193(b)**

**MAIL STOP APPEAL BRIEF - PATENTS**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

In accordance with the provisions of 37 C.F.R. § 1.193(b), Appellant respectfully submits this Reply Brief in response to the Examiner's Answer dated June 10, 2004. Entry of this Reply Brief is respectfully requested.

**POINTS RAISED IN EXAMINER'S ANSWER**

The Examiner maintains the §103 rejections essentially for the same reasons set forth in the final Office Action mailed October 29, 2003. While Appellant believes that the Examiner did not present any new technical arguments in support of these prior art rejections, Appellant would like to address the following points noted in the Examiner's Answer.

1. The Examiner alleges that "it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the apparatus of Saotome to comprise a

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sheet-shaped source erasing light in the location suggested by Arakawa since a smaller case 229 could be achieved that way" (see Examiner's Answer, *(10) Ground of Rejection*, ¶4).

2. The Examiner alleges that Appellant's position, that "EL panel 30 [of Arakawa] cannot play a role in total erasing [i.e., "strong" erasing for removing essentially all of the energy stored in a stimulable phosphor sheet]," is "based on an inadequate reading of the references" (see Examiner's Answer, *(11) Response to Arguments*, ¶1).

Appellant replies as follows.

1. As noted in Appellant's Brief on Appeal, Saotome relates to recording along a belt where x-ray exposure is provided to one side of the belt and image reading and erasure is provided by conveying the belt to a read-out section, and erasure is further achieved by conveyance of the belt (see *Id.*, Figs. 1 and 10). The Examiner acknowledges that in Saotome "the erasing light sources are not (illustrated as) sheet-shaped or on the side of the sheet 226 [see Saotome, Fig. 10] exposed to radiation" (see Examiner's Answer, *(11) Response to Arguments*, ¶1). However, the Examiner takes the position that one of ordinary skill in the art of radiation image recording and read-out would have been motivated to modify Saotome to replace its erasing light sources with an erasing light source 30 as disclosed in Arakawa. In particular, the Examiner alleges that the motivation to modify Saotome would have been to achieve a "smaller case 229" (see Examiner's Answer, *(10) Ground of Rejection*, ¶4).

Appellant respectfully submits that, as explained in MPEP 2143.01, "[o]bviousness can only be established by combining or modifying the teachings of the prior art to produce the

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claimed invention where there is some teaching, suggestion, or motivation to do so found either explicitly or implicitly in the references themselves or in the knowledge generally available to one of ordinary skill in the art.” *Id.*; *see also* MPEP §2143 (the “fact that the claimed invention is within the capabilities of one of ordinary skill in the art is not sufficient by itself to establish *prima facie* obviousness”).

In the present case, Saotome discloses that one of its objectives is “to provide a radiation image recording and read-out apparatus … which is small” (*see Id.*, col. 3, lines 39-42). Saotome also discloses that “[t]he erasing section 33 may also be composed of a surface type erasing light source such as … and EL (electroluminescence) plate, as well as a plurality of the erasing light source 32,32 …” (*see Id.*, col. 10, line 64 through col. 11, line 5). However, nowhere does Saotome disclose, or even remotely suggest, that using an EL plate instead of, or in conjunction with, erasing light sources 32,32 would somehow reduce the size of the radiation image recording and read-out apparatus. Likewise, Arakawa does not disclose, teach or suggest that employing an EL panel 30, which must be large enough to illuminate the entire image “at once” (*see Arakawa*, translation attached to Examiner’s Answer, “[Means to solve the Problem]” section), results in a smaller image recording and read-out apparatus.

In fact, Arakawa’s objective has nothing to do with reducing the size of image recording and read-out apparatuses, but deals with improving “overlay position precision” in image acquisition devices which perform energy subtraction processing.

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Thus, the Examiner's conclusion as to the alleged motivation for combining Saotome and Arakawa is not supported by the actual disclosure of the references themselves.

The Examiner does not even attempt to explain what general knowledge would lead one or ordinary skill in the art to believe that replacing either, or both, of the erasing light sources 270 and 261,261 of Saotome with an EL plate 30 of Arakawa positioned on the side of the Saotome's sheet 226 exposed to radiation would result in reducing the size of Saotome's case 229.

Accordingly, contrary to the Examiner's analysis one skilled in the art would not have been motivated to combine the opposing teachings of Saotome and Arakawa, to achieve an image recording and read-out apparatus and method where entire area of the stimulable phosphor sheet is irradiated by strong erasing light from a sheet-shaped erasing light source, as recited in Appellant's independent claims 1 and 9. *See MPEP 2143.01* ("the prior art must suggest the desirability of the claimed invention"); *see also Id. citing In re Lee* (discussing the importance of relying on objective evidence and making specific factual findings with respect to the motivation to combine references).

2. The Examiner alleges that "[a] sheet-shaped erasing light source is recognized by Saotome *et al.* as equivalent to the fluorescent lamps 261 illustrated in Fig. 10" (see Examiner's Answer, (10) *Ground of Rejection*, ¶4). Appellant respectfully submits that the Examiner mischaracterizes Saotome's actual disclosure. In fact, Saotome does not describe sheet-shaped

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erasing light sources as being "equivalent" to fluorescent lamps. Instead, Saotome discloses that an erasing section may be composed of a surface type erasing light source such as a panel comprising light emitting diodes or an EL plate, as well as a plurality of erasing light sources such as fluorescent lamps 261:

As the erasing light sources 32, 32, . . . , tungsten-filament lamps, halogen lamps, infrared lamps, xenon flash lamps or the like as disclosed in U.S. Pat. No. 4,400,619 may be selected as well as the aforesaid fluorescent lamps. **The erasing section 33 may also be composed of a surface type erasing light source such as a panel comprising light emitting diodes arrayed two-dimensionally or an EL (electroluminescence) plate, as well as a plurality of the erasing light sources 32, 32, . . . as mentioned above.** Also, a lead plate 2 for shielding the radiation is provided in the recording and read-out unit 20, and therefore the radiation 12 produced by the radiation source 11 at the time of the image recording is prevented from impinging upon the recording belt 1 at the image read-out section 30 or the erasing section 33, or adversely affecting the image read-out section 30 or the erasing section 33.

Nowhere does Saotome disclose, teach or suggest that surface type erasing light sources are equivalent to the erasing light sources such as tungsten-filament lamps, halogen lamps, infrared lamps, xenon flash lamps or the like. Furthermore, nowhere does Saotome disclose, teach or suggest that its surface type erasing light source "such as a panel comprising light emitting diodes arrayed two-dimensionally or an EL (electroluminescence) plate" is arranged on the side of the sheet 226 exposed to radiation. (In this regard, Appellant notes that one of the requirements of Appellant's independent claims 1 and 9 is "the sheet-shaped erasing light source having uniform transmissivity to the radiation".)

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On the other hand, Arakawa discloses an EL panel 30 configured for releasing only the high energy image information stored in a part (i.e. a layer 21) of the stimulable phosphor sheet before the image signal is read out. Nowhere does Arakawa disclose, teach or suggest that its EL panel 30 plays a role in releasing the entire energy remaining on the stimulable phosphor sheet after the image signal is read out. That is, Arakawa discloses a very specific implementation of an EL panel for use in image acquisition devices which are based on energy subtraction processing. In this regard, Arakawa's EL panel has a very specific structure for performing a very specific function. Thus, neither Saotome, nor Arakawa, disclose, teach or suggest a method (claim 1) or an apparatus (claim 9) where the entire area of a stimulable phosphor sheet is irradiated by strong erasing light from a sheet-shaped erasing light source having uniform transmissivity to the radiation.

**CONCLUSION**

For the above reasons as well as the reasons set forth in Appellant's Brief on Appeal, Appellant respectfully requests that the Board reverse the Examiner's rejections of all claims on Appeal. An early and favorable decision on the merits of this Appeal is respectfully requested.

SUGHRUE MION, PLLC  
Telephone: (202) 293-7060  
Facsimile: (202) 293-7860

WASHINGTON OFFICE  
**23373**  
CUSTOMER NUMBER

Date: August 10, 2004

Respectfully submitted,  
*Stan Torgovitsky* #40,766  
for Stan Torgovitsky  
Registration No. 43,958